# RADIO LINK PROTOCOL FRAMING SYSTEM FOR HIGH SPEED DATA TRANSFER OVER DIGITAL CELLULAR MOBILE TELECOMMUNICATION NETWORKS

## Abstract

5      The Radio Link Protocol framing system provides the mobile wireless station set with high speed data transmission capability by using the Dedicated Control Channel, which comprises a stream of 20 msec frames, to carry a single 18 byte Radio Link Protocol frame and the Supplementary Channel, which comprises a stream of 20msec frames, to carry many 18 byte Radio Link Protocol frames to accommodate high-speed bursts of data. The Radio Link Protocol framing system packs the Radio Link Protocol frames within the Supplementary Channel (SCH-RLP frames) to maximize the data processing efficiency. The Radio Link Protocol framing system functions to package the subscriber's data into predetermined frame format consisting of Core Units, which are packed, as needed, into one SCH-RLP frame. The data capacity is limited solely by the Supplementary Channel burst capacity. By simply computing the Cyclic Redundancy Check bits to validate the accuracy of the data contained within a SCH-RLP frame enables the system to copy the data directly from the SCH-RLP frame to data receive buffers. Both sequential and non-sequential frames can be incorporated into a single SCH-RLP frame. The Core Unit is the common divisor of both the Dedicated Control Channel and the Supplementary Channel. The Dedicated Control Channel supports transmission of a full frame of 9.6Kbps, while the Supplementary Channel supports data transmission speeds of 9.6Kbps and higher.